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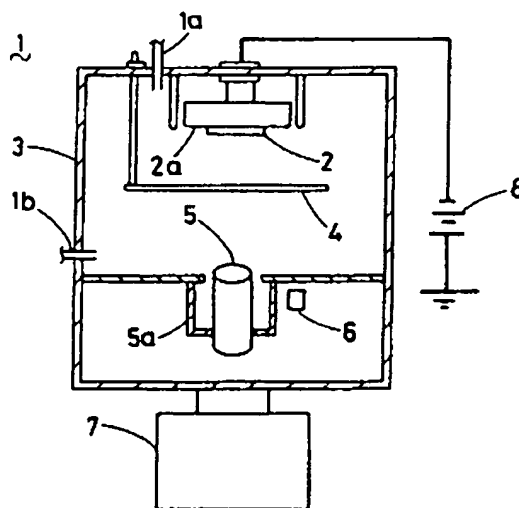
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TITLE : METHOD FOR CLEANING METAL



ABSTRACT : PURPOSE: To clean a metallic substrate surface without roughening said surface and to improve the adhesive of coating by dissociating the adsorbed gaseous molecules on the metallic substrate surface by inert gas ions, then reducing the oxide and nitride on the substrate by hydrogen ions.

CONSTITUTION: The inside of a vacuum furnace 3 is evacuated and thereafter, the vacuum furnace 3 is heated to evaporate and degas the cutting fluid, etc., sticking on the surface of the substrate 2. A gaseous mixture composed of an inert gas such as Ar and H₂ is thereafter supplied from a 1st feed path 1a. The Ar is ionized by the glow discharge using the substrate 2 as an electrode to dissociate the adsorbed gaseous molecules of O₂, H₂, etc. from the surface of the substrate 2. These molecules are discharged. Hydrogen is then ionized to reduce the oxide part and nitride part on the substrate 2 surface. The reduced oxygen and nitrogen react with the hydrogen ions and suspend in the form of H₂O and NH₃ which are then discharged. The surface of the substrate 2 is thereby cleaned and the activation thereof is accelerated and, therefore, the coating layer having good adhesiveness is formed.

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